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ABSTRACT

The three major aspects of the clinical biofeedback experience for undergraduates at Hope College, Holland, Michigan are presented in terms of the academic program, the actual clinical experience, and the procedures for becoming certified as a "biofeedback assistant." The academic program is detailed, including the requirements for psychology majors and the physiological psychology required for biofeedback research. The clinical experience is defined as a field placement study at Human Resource Associates, where students use biofeedback in the treatment of psychophysiological disorders and chronic pain. The training and certification qualifications for "biofeedback assistants" established by the Biofeedback Society of Michigan are also outlined. (HLM)

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INTEGRATING COURSE WORK WITH FIELD WORK PLACEMENTS IN UNDERGRADUATE CLINICAL BIOFEEDBACK

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Integrating Course Work with Field Work Placements in Undergraduate Clinical Biofeedback

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Hope College

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The Psychology Department at Hope College, like those in many other small undergraduate liberal arts institutions, is concerned with excellence in education and has emphasized basic knowledge in its requirements. It has also responded responsibly to the demand for a greater emphasis on application. As part of this response, the department has increasingly granted credit toward the major for field experiences. The study of biofeedback has provided an appropriate vehicle for accomplishing the goal of creating a good balance between the theoretical "basics" and applied field experience.

Typically, field experience for undergraduates has not been possible in a clinical-psychotherapeutic setting. Psychotherapy does not lend itself to undergraduate participation. Biofeedback, however, as a technique used in therapy, lends itself well to the undergraduate's participation. Gaarder and Montgomery (1977) note "it cannot be too strongly emphasized that the bulk of treatment can be carried out by someone other than the holder of an advanced degree and that it is wasteful of resources to use highly paid personnel for the (biofeedback) treatment methods we have outlined" (p. 100). As part of the new area of "behavioral medicine" (Birk, 1973; Schwartz and Weiss, 1977) or "clinical psychophysiology" (Feuerstein and Schwartz, 1977) biofeedback also represents an exciting area of application of the often not too exciting basic area of physiological psychology.

I will describe three major aspects of the clinical biofeedback experience for undergraduates at Hope College: first, the academic program which serves as a foundation for a sound clinical experience; second, the clinical experience itself; and third, the procedures whereby an undergraduate can become certified by the Biofeedback Society of Michigan (BSM) as a biofeedback "Assistant", thereby opening employment opportunities in biofeedback for B.A. graduates in the area of behavioral medicine.

The minimum requirement for a psychology major at Hope College is 24 semester credits in psychology plus the usual liberal arts courses including statistics and biology. Experimental psychology is required as a four credit course involving both lecture and laboratory with an emphasis on research methods and experimental design. One other laboratory course is also required. The remainder of the 18 credits is selected by the student in accordance with his or her interests and career objectives. A student's interest in biofeedback is usually the result of having taken the physiological psychology course or having an interest in doing research and hearing about biofeedback as one of the research areas available. To do research, which is strongly emphasized for those serious about the profession of psychology, the student must have completed experimental psychology and have taken, for biofeedback research, physiological psychology. After completing these two courses (and most of the time statistics, some biology, and other psychology courses like developmental and personality), the student would next take the laboratory in physiological psychology (2 credits) or supervised research in psychology (1-4 credits). In either of these, the student would have an initial hands-on experience with biofeedback instruments.

The laboratory in physiological psychology (Psych 390) contains a major segment dealing with the psychophysiology of muscle, electrodermal, thermal,

heart rate, and electroencephalographic responses. Instrumentation is used not only to demonstrate these kinds of responses but several modalities are experienced by the students in practicing control of their own responses. For example, students would learn to reliably decrease EMG frontalis and trapezius levels, increase finger temperature and decrease heart rate. The second half of this laboratory requires the student to conduct a research project from beginning to end with the final step being an APA style research paper. While other choices are available, some choose a research project in the area of biofeedback.

Supervised research in psychology (Psych 290) enables the student to work with a professor on his or her research (biofeedback and stress in this case). Later independent study (Psych 490) can be taken to do research initiated by the student (after the proposal to do so is approved by a departmental committee). Incidentally, a maximum of 6 credit hours of these courses (Psych 290 & 490) is allowed toward the 24 hours required of majors. In addition to "experimental laboratory" and "library" independent studies, "field placement" independent study is also available. The clinical experience in biofeedback is considered field placement independent study and requires a written, approved proposal. The students seeking approval are usually at least juniors and ideally have completed Introductory Psychology, Experimental, Developmental, Learning, Personality, Behavior Disorders, Physiological and a laboratory. Seminars on stress and biofeedback and on the helping relationship (which can be offered only irregularly because of other teaching demands) have sometimes also been taken. Needless to say, the clinical experience is designed for students with a solid foundation in "basic" psychology.

The field placement independent study is a clinical experience using biofeedback in the treatment of psychophysiologic disorders and chronic pain. The

student placement is with Human Resource Associates in Grand Rapids, about 30 miles from Hope College. It is a private psychological clinic which uses biofeedback not only in some of its regular psychotherapy but also more extensively in its Chronic Pain and Holistic Health Center (CPHHC). Most of the clients in the CPHHC have chronic pain syndromes involving the back and neck. Many have had surgery after having had industrial, automobile, or other accidents injuring their backs.

Without explaining the entire program let me just emphasize the role the student plays in the use of biofeedback in this program. The program for chronic pain patients lasts nine weeks and, together with other treatment modalities, teaches relaxation of chronically tense muscles due to bracing responses, stress, or other psychophysical dysfunction through progressive relaxation, autogenic training, and biofeedback. Individual sessions usually involve EMG biofeedback of the frontalis, trapezius, and back muscles. Control of vasodilation through thermal biofeedback is also practiced where needed to help the client learn to relax the smooth musculature controlled by the sympathetic autonomic nervous system. The student becomes part of the pain program by attending the didactic sessions with the class of clients (maximum 10) wherein biofeedback is introduced, explained, and demonstrated. The student is taught how to record the data, interact with the client, and use the knowledge already learned in the basic undergraduate psychology courses. Knowledge and skills required of the student include the ability to explain the concept of biofeedback to clients, especially with regard to its use as a tool for learning control of psychophysiologic responses; a grasp of the application of principles of reinforcement and their application in shaping; and empathic relating skills. In the course of

the field placement the student is given help by the coordinator of the pain program not only during biofeedback sessions but also during weekly review of the programs of each client and during staffing sessions with all the professionals involved. The student is considered part of the team.

The student's clinical experience obviously goes beyond just a biofeedback experience. This is in keeping with the nature of biofeedback practice in that it is a therapeutic modality, not isolated therapy itself. The Biofeedback Society of Michigan (BSM) has established certification requirements for biofeedback "Practitioners" and one of these is that the person by "professionally licensed to accept fees for their service." Thus certification is for the speciality use of biofeedback within an already licensed therapy practice. Physicians, psychologists, physical therapists, social workers, registered nurses, marriage/family counselors are examples of those who qualify for application for certification as a biofeedback "Practitioner." Certification as an "Assistant" in biofeedback, however, is open to a non-professional (undergraduate). It requires the same 120 hours of approved training as does the certified "Practitioner," but it does not require licensure in a profession. Thus the student is able to be certified as an "Assistant" after completing the following training:

1) "40 hours of didactic instruction"

   Courses in physiological psychology, physiological psychology laboratory, supervised study, independent study, seminars on biofeedback, and workshops given outside the College are all applicable.

2) "10 hours of case study"

   These hours are easily obtained in the clinical experience at the CPHHC in the weekly review of progress of each client with the clinical staff.

3) "25 hours of personal biofeedback training with instruments"

Students begin fulfilling this requirement in the physiological psychology laboratory where they practice control of EMG, thermal and often heart rate, GSR and EEG responses. Additional supervised practice is required, however, and demands extra non-course time either at the College or the clinic. Fifteen hours of the 25 requires only supervision by a peer so students can work together. The other 10 hours require supervision by a Certified Biofeedback Practitioner (a licensed professional who has completed the 120 hour requirement).

After documented evidence is accepted for the 120 hours of training, the person then takes a written and oral examination administered by a committee of the BSM. This completes the certification process.

While certification is not required, or even usual for an undergraduate to obtain, it is within reach and does offer employment and graduate school admission advantages. One Hope student is now ready for the certification examinations and will take them when they are next offered. He has been accepted to a graduate school but plans to work for a year as a biofeedback assistant before beginning graduate work.

For most students, the clinical experience itself is worthwhile and rewarding. Students have the course preparation enabling them to succeed in the clinical field independent study. An advantage of the program is that it demands only what most undergraduate curricula already have. Since many colleges already have biofeedback equipment, its use in individual seminars and labs or tied to courses in physiological psychology or even personality and psychotherapy can be easily accomplished. Implementing the program requires only internal course structure changes without the need for curriculum committee action. As mentioned, we feel it is important that the clinical experi-

ence follow an extensive grounding in fundamental courses. The field placement should not be postponed until the student's last semester. The clinical experience often serves to increase students' motivation for research work in biofeedback, and an independent study or laboratory course are common courses sought by students after their field placement. Also, some students may have the opportunity to continue as paid part-time employees.

Additional clinical biofeedback experiences are currently being developed at the Ottawa County Community Mental Health Center. Placements with clinicians in private practice or in college health clinics are being explored as possible sources of field experience as student demand and the field of biofeedback grow.

Our experience at Hope College strongly supports the ease of incorporating a clinical biofeedback experience for undergraduates into an existing curriculum. The students' eager participation substantiates its demand, and their performance and the availability of certification give credence to their readiness for such a clinical field experience. There can be little doubt that an unusual and ready-made opportunity exists to enhance the undergraduates' learning environment and, at the same time, enhance the psychology department's scope and attractiveness.

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